



PTO/SB/33 (07-05)

United States Patent & Trademark Office; U.S. DEPARTMENT OF COMMERCE

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| PRE-APPEAL BRIEF REQUEST FOR REVIEW | Docket Number (Optional) 58268.00097 |
| I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on _____ Signature _____ Typed or printed Name _____ | Application Number: 09/985,763 Filed: November 6, 2001 |
| | First Named Inventor: Paul KALAPATHY et al. |
| | Art Unit: 2616 |
| | Examiner: Hong Sol CHO |

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

- ☐ Applicant/Inventor.
- ☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under
37 CFR 3.73(b) is enclosed
- ☒ Attorney or agent of record.
Registration No. 58,178

- ☐ Attorney or agent acting under 37 CFR 1.34.
Reg. No. is acting under 37 CFR 1.34 _____


Signature

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Typed or printed name

703-720-7800
Telephone number

October 19, 2006
Date

NOTE: Signatures of all of the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

- ☐ *Total of _____ forms are submitted.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Confirmation No. 4336

Paul KALAPATHY et al.

Art Unit: 2616

Application No.: 09/985,763

Examiner: Hong Sol CHO

Filed: November 6, 2001

Attorney Dkt. No.: 58268.00097

For: PIPELINED SEARCHES WITH A CACHE TABLE

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

October 19, 2006

Sir:

In accordance with the Pre-Appeal Brief Conference Pilot Program guidelines set forth in the July 12, 2005, Official Gazette Notice, Applicants hereby submit this Pre-Appeal Brief Request for Review of the final rejections of claims 1-25 in the above identified application. Claims 1-25 were finally rejected in the Office Action dated July 19, 2006 ("the Office Action"). Applicants filed a Response to the Final Office Action on August 9, 2006 ("the Response"), and the Office issued an Advisory Action dated August 23, 2006 ("the Advisory Action"), maintaining the final rejections of claims 1-25. Applicants hereby appeal these rejections and submit this Pre-Appeal Brief Request for Review.

Clear Error: Michaels fails to disclose a table search device that includes two memories.

Claim 1 recites "a table search device comprising: a table [and] a cache." The Office Action took the position that the "table search device" corresponds to Michaels'

pair of binary search engines 66, 68. However, neither of these search engines includes “a table” and “a cache.” See, for example, Figure 3 of Michaels.

The Office Action’s rejection could be construed more broadly, such that the entire search engine 60 of Michaels, which includes both binary search engines 66 and 68, is considered as the claimed table search device. Even under such a broad view, however, the entire search engine 60 does not include both “a table” and “a cache.”

The Office Action took the position that that claimed “cache” corresponds to Michaels’ stage 1 memory 70. As can be seen from Figure 3 of Michaels, stage 1 memory 70 is not included in either of the binary search engines 66 and 68, but is external to them. However, if one read the Office Action’s rejection more broadly, such that the entire search engine 60 of Michaels were understood to correspond to the claimed “table search device,” then the stage 1 memory 70 clearly is included in the search engine 60.

The Office Action also took the position that the claimed “table” corresponds to Michaels’ primary memory 58. As can be seen from Figure 3 of Michaels, primary memory 58 is not included in either of the binary search engines 66 and 68. Furthermore, even construing the Office Action’s rejection more broadly, such that the entire search engine 60 of Michaels were understood to correspond to the claimed “table search device,” **the primary memory is still not a part of the search engine 60.**

Figure 3 shows primary memory 58, stage 1 memory 70, and the binary search engines 66 and 68, **but not as a single device.** As can be seen from the dashed line for search engine 60, certain features are clearly within the box, and other features, including the primary memory 58, the network cable 74, the media interface 56, and the port intercommunication logic 54 are clearly outside the box. Figure 3 is depicting a switching device 50, of which one component is the search engine 60. The search engine 60, however, does not include the primary memory 58. The primary memory 58 is outside the search engine 60, although the stage 1 memory 70 is a part of the search engine 60.

Michaels therefore clearly does not disclose or suggest “a table search device” comprising “a table” and “a cache.” For similar reasons Michaels clearly does not disclose or suggest:

- “a table search system” comprising “table means” and “cache means” (claim 7)
- “a table ... in a search device” and “a cache, in the search device” (claim 13)
- “a search device comprises the search engine and the ARL table” (claim 16)

Accordingly, it is respectfully submitted that Michaels clearly does not disclose or suggest all of the features of any of the presently pending claims.

Clear Error: Improper Hindsight Reconstruction

Claims 3, 5, 9, 11, 14, 18, and 20 were as being unpatentable over Michels. A detailed explanation for why this rejection is improper is set forth in the Response at pages 6-10.

The Office Action took the position that Michaels does not teach that the first number of search cycles used to search the cache is less than the second number of search cycles used to search the table. The Office Action asserted that it would have been obvious to modify the number of iterations to search a lookup table so that it will take less time for the binary search engine to search a lookup table with 256 entries than searching a lookup table with 64000 entries. Applicants respectfully traverse this rejection.

Moreover, with regard to the relative number of search iterations, Michels clearly states that “one aspect of the invention is that the binary search engines divide the binary search of the lookup table by each performing some of the iterations of the overall search. For example, if the lookup table has 64K entries, the binary search engine 66 performs

the first eight iterations of the search and binary search engine 68 performs the last eight iterations,” at column 5, line 66 to column 6, line 5. All the other examples in Michels also clearly show the binary search engines sharing equal number of iterations.

As Michels explains at column 5, lines 63-65, although a 64K table may require 16 iterations, a 256 entry table requires 8 iterations to search. Accordingly, one of ordinary skill in the art, following Michels’ teaching would be motivated to search with two binary search engines, each performing four iterations, if the table had only 256 entries. Accordingly, Applicants respectfully disagree that there is teaching, motivation, or suggestion to modify Michels to provide the claimed invention.

Claims 22-25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Michels in view allegedly admitted prior art. The Office Action took the position that Michaels does not teach “embodiment of the table and search engine on a single substrate.” The Office Action took the position that this feature was admitted prior art. Applicants respectfully traverse this rejection.

Applicants respectfully assert that paragraph [0055] on page 16 of the present application (cited by the Office Action) does not contain any admission of prior art. Paragraph [0055] of the present application does not even mention the term “prior art,” nor is it found in a “background” section (which would not necessarily imply that it was prior art), but is part of the “Detailed Description of the Preferred Embodiments” beginning on page 5, with paragraph [0011] and concluding on page 16, with paragraph [0056].

Furthermore, paragraph [0055] states “A person ... would be able to implement the various modules ... etc. ... unto a single semiconductor substrate, **based upon the architectural description discussed above.**” (Emphasis added.) Accordingly, paragraph [0055] clearly indicates that single semiconductor substrate feature is dependent not on the general knowledge of one of ordinary skill in the art, but upon the disclosure of the present application. Thus, the single semiconductor substrate feature cannot possibly be considered admitted prior art.

The Advisory Action asserts, apparently as an alternative basis, that the "single substrate" feature would have been obvious "as a matter of design choice." Applicants respectfully submit that MPEP 2144.04 (VI)(C) clearly states that "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device.' *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984)". Neither the Office Action nor the Advisory Action provides such a motivation or reason. Thus, the rejection is clearly erroneous, and should be reversed.

Reconsideration and withdrawal of the rejections, in view of the clear errors in the Office Action, is respectfully requested. In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: PTO/SB/33 Form; Notice of Appeal; Check No. 15249